



The Association of Professional  
Engineers and Geoscientists of Alberta

**Engineering Physics**  
**COURSE EQUIVALENTS**  
**2017 EDITION**

<i>University of Alberta</i>		<i>University of Calgary</i>	
<b>17-Phys-A1</b> PHYS 244	<b>Classical Mechanics</b> Mechanics	PHYS 343	Intermediate Mechanics
<b>17-Phys-A2</b> PHYS 311	<b>Statistical Physics</b> Statistical Physics	PHYS 449	Fundamentals of Electromagnetic Fields
<b>17-Phys-A3</b> ECE 476 OR PHYS 481	<b>Electromagnetics (16-Elec-A7)</b> Engineering Electromagnetics II Electromagnetics II	ENEL 475 & ENEL 575	Fundamentals of Electromagnetic Fields Microwave Circuits and Antennas
<b>17-Phys-A4</b> PHYS 372	<b>Quantum Mechanics</b> Quantum Mechanics A	PHYS 443	Quantum Mechanics I
<b>17-Phys-A5-A</b> ECE 302	<b>Electronic Materials and Devices</b> Electronic Devices	ENEL 463	Electronic Devices and Circuits I
<b>17-Phys-A5-B</b> ECE 303 & ECE 304	<b>Analog and Digital Electronic Circuits</b> Analog Electronics Digital Electronics		<i>No Course Equivalent Offered</i>
<b>17-Phys-A6</b> PHYS 415	<b>Solid State Physics</b> Introduction to Condensed Matter Physics I	PHYS 507	Solid State Physics
<b>17-Phys-A7</b> PHYS 362	<b>Optics</b> Optics and Lasers		<i>No Course Equivalent Offered</i>
<b>17-Phys-B1</b> ONCOL 550	<b>Radiation Physics</b> Medical Radiation Physics	PHYS 561	Stable and Radioactive Isotope Studies, Fundamentals
<b>17-Phys-B2</b> ECE 471	<b>Electro-Optical Engineering (16-ELEC-B10)</b> Photonics I	ENEL 579	Optical Fibre Communications
<b>17-Phys-B3</b> ECE 210 & ECE 212	<b>Digital Systems and Computers (ECE 210 is BS-8 Required in ELEC but Optional in ENG PHYS)</b> Introduction to Digital Electronics Logic Design Introduction to Microprocessors	ENEL 353 & ENEL 415	Digital System Design Assembly Language Programming and Interfacing
<b>17-Phys-B4</b> ECE 240 & ECE 380	<b>Signals and Communications (16-ELEC-A3)</b> Continuous Time Signals And Systems Introduction to Communication Systems	ENEL 471	Analog Communications
<b>17-Phys-B5</b> ECE 240 & ECE 360	<b>Systems and Control (16-ELEC-A2)</b> Continuous Time Signals And Systems Control Systems I	ENEL 441	Control Systems I
<b>17-Phys-B6</b> MEC E 340 & MEC E 371	<b>Applied Thermodynamics and Heat Transfer (16-MEC-A1)</b> Applied Thermodynamics Heat Transfer	ENEL 471 & ENME 485	Heat and Mass Transfer Mechanical Engineering Thermodynamics

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**17-Phys-B7 Structure of Materials (10-MET-A4)**

MAT E 211 Characterization of Materials

ENME 421 Materials I

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MAT E 335 Phase Transformation I

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MAT E 362 Materials Engineering Laboratory II

MAT E 471 Ceramics (This should be sufficient ??)

*Updated December 2020*